

## SEQUENCE LISTING

<110> TSUBOUCHI, Kozo  
YAMADA, Hiromi

<120> EXTRACTION AND UTILIZATION OF CELL  
GROWTH-PROMOTING PEPTIDES FROM SILK PROTEIN

<130> OPS 635

<140> US 10/789 494

<141> 2004-02-27

<150> JP 2003-55048

<151> 2003-02-28

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<213> *Bombyx mori*

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Ala Ala Ser Ser Val Ser Ser Ala Ser Ser Arg Ser Tyr Asp  
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Tyr Ser Arg Arg Asn Val Arg Lys Asn  
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Ser Gly Tyr Glu Tyr Ala Trp Ser Ser Glu Ser Asp Phe Gly  
15 20 25  
Thr

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<213> *Antheraea yamamai*

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Tyr Gly Trp Gly Asp Gly Gly Tyr Gly Ser Asp Ser

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<213> *Antheraea yamamai*

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Asp Ile Tyr Glu Glu Asp

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Asp Ser Glu

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Met Arg Val Lys Thr Phe Val Ile Leu Cys Cys Ala Leu Gln  
5 10  
Tyr Val Ala Tyr Thr Asn Ala Asn Ile Asn Asp Phe Asp Glu  
15 20 25  
Asp Tyr Phe Gly Ser Asp Val Thr Val Gln Ser Ser Asn Thr  
30 35 40  
Thr Asp Glu Ile Ile Arg Asp Ala Ser Gly Ala Val Ile Glu  
45 50 55  
Glu Gln Ile Thr Thr Lys Lys Met Gln Arg Lys Asn Lys Asn  
60 65 70  
His Gly Ile Leu Gly Lys Asn Glu Lys Met Ile Lys Thr Phe  
75 80  
Val Ile Thr Thr Asp Ser Asp Gly Asn Glu Ser Ile Val Glu  
85 90 95  
Glu Asp Val Leu Met Lys Thr Leu Ser Asp Gly Thr Val Ala  
100 105 110

Gln Ser Tyr Val Ala Ala Asp Ala Gly Ala Tyr Ser Gln Ser  
115 120 125  
Gly Pro Tyr Val Ser Asn Ser Gly Tyr Ser Thr His Gln Gly  
130 135 140  
Tyr Thr Ser Asp Phe Ser Thr Ser Ala Ala Val  
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5 10  
Ser Arg Ser Asp Gly Tyr Glu Tyr Ala Trp Ser Ser Asp Phe  
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Gly Thr  
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&lt;400&gt; 11

Gly Ser Ser Gly Phe Gly Pro Tyr Val Ala His Gly Gly Tyr

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Ser Gly Tyr Glu Tyr Ala Trp Ser Ser Glu Ser Asp Phe Gly

15

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25

Thr

&lt;210&gt; 12

&lt;211&gt; 29

&lt;212&gt; PRT

<213> *Bombyx mori*

&lt;220&gt;

&lt;400&gt; 12

Gly Ser Ser Gly Phe Gly Pro Tyr Val Ala Asn Gly Gly Tyr

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Ser Gly Tyr Glu Tyr Ala Trp Ser Ser Glu Ser Asp Phe Gly

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25

Thr

&lt;210&gt; 13

&lt;211&gt; 29

&lt;212&gt; PRT

<213> *Bombyx mori*

&lt;220&gt;

&lt;400&gt; 13

Gly Ser Ser Gly Phe Gly Pro Tyr Val Ala His Gly Gly Tyr

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Ser Gly Tyr Glu Tyr Ala Trp Ser Ser Glu Ser Asp Phe Gly

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Thr

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5 10  
Ser Gly Tyr Glu Tyr Ala Trp Ser Ser Glu Ser Asp Phe Gly  
15 20 25  
Thr

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<213> *Bombyx mori*

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5 10  
Ser Gly Tyr Glu Tyr Ala Trp Ser Ser Glu Ser Asp Phe Gly  
15 20 25  
Thr

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Gly Ser Ser Gly Phe Gly Pro Tyr Val Ala Asn Gly Gly Tyr

5

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Ser Gly Tyr Glu Tyr Ala Trp Ser Ser Glu Ser Asp Phe Gly

15

20

25

Thr

&lt;210&gt; 17

&lt;211&gt; 29

&lt;212&gt; PRT

<213> *Bombyx mori*

&lt;220&gt;

&lt;400&gt; 17

Gly Ser Ser Gly Phe Gly Pro Tyr Val Ala Asn Gly Gly Tyr

5

10

Ser Gly Tyr Glu Tyr Ala Trp Ser Ser Glu Ser Asp Phe Gly

15

20

25

Thr

&lt;210&gt; 18

&lt;211&gt; 28

&lt;212&gt; PRT

<213> *Bombyx mori*

&lt;220&gt;

&lt;400&gt; 18

Gly Ser Ser Gly Phe Gly Pro Tyr Val Asn Gly Gly Tyr Ser

5

10

Gly Tyr Glu Tyr Ala Trp Ser Ser Glu Ser Asp Phe Gly Thr

15

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&lt;210&gt; 19



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5 10  
Ser Gly Tyr Glu Tyr Ala Trp Ser Ser Glu Ser Asp Phe Gly  
15 20 25  
Thr

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<213> *Bombyx mori*

<220>

<400> 20  
Gly Ser Ser Gly Phe Gly Pro Tyr Val Ala Asn Gly Gly Tyr  
5 10  
Ser Arg Arg Glu Gly Tyr Glu Tyr Ala Trp Ser Ser Lys Ser  
15 20 25  
Asp Phe Glu Thr  
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<213> *Bombyx mori*

<220>

&lt;400&gt; 21

Ala Ala Ser Ser Val Ser Ser Ala Ser Ser Arg Ser Tyr Asp  
5 10  
Tyr Ser Arg Arg Asn Val Arg Lys Asn Cys Gly Ile Pro Arg  
15 20 25  
Arg Gln Leu Val Val Lys Phe Arg Ala Leu Pro Cys Val Asn  
30 35 40  
Cys

&lt;210&gt; 22

&lt;211&gt; 262

&lt;212&gt; PRT

<213> *Bombyx mori*

&lt;220&gt;

&lt;400&gt; 22

Met Lys Pro Ile Phe Leu Val Leu Leu Val Ala Thr Ser Ala  
5 10  
Tyr Ala Ala Pro Ser Val Thr Ile Asn Gln Tyr Ser Asp Asn  
15 20 25  
Glu Ile Pro Arg Asp Ile Asp Asp Gly Lys Ala Ser Ser Val  
30 35 40  
Ile Ser Arg Ala Trp Asp Tyr Val Asp Asp Thr Asp Lys Ser  
45 50 55  
Ile Ala Ile Leu Asn Val Gln Glu Ile Leu Lys Asp Met Ala  
60 65 70  
Ser Gln Gly Asp Tyr Ala Ser Gln Ala Ser Ser Val Ala Gln  
75 80  
Thr Ala Gly Ile Ile Ala His Leu Ser Ala Gly Ile Pro Gly  
85 90 95  
Asp Ala Cys Ala Ala Ala Asn Val Ile Asn Ser Tyr Thr Asp  
100 105 110

Gly Val Arg Ser Gly Asn Phe Ala Gly Phe Arg Gln Ser Leu  
115 120 125  
Gly Pro Phe Phe Gly His Val Gly Gln Asn Leu Asn Leu Ile  
130 135 140  
Asn Gln Leu Val Ile Asn Pro Gly Gln Leu Arg Tyr Ser Val  
145 150  
Gly Pro Ala Leu Gly Cys Ala Gly Gly Gly Arg Ile Tyr Asp  
155 160 165  
Phe Glu Ala Ala Trp Asp Ala Ile Leu Ala Ser Ser Asp Ser  
170 175 180  
Ser Phe Leu Asn Glu Glu Tyr Cys Ile Val Lys Arg Leu Tyr  
185 190 195  
Asn Ser Arg Asn Ser Gln Ser Asn Asn Ile Ala Ala Tyr Ile  
200 205 210  
Thr Ala His Leu Leu Pro Pro Val Ala Gln Val Phe His Gln  
215 220  
Ser Ala Gly Ser Ile Thr Asp Leu Leu Arg Gly Val Gly Asn  
225 230 235  
Gly Asn Asp Ala Thr Gly Leu Val Ala Asn Ala Gln Arg Tyr  
240 245 250  
Ile Ala Gln Alg Ala Ser Gln Val His Val  
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<213> *Antheraea yamamai*

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&lt;400&gt; 23

Met Arg Val Thr Ala Phe Val Ile Leu Cys Cys Ala Leu Gln  
5 10  
Tyr Ala Thr Ala Asn Asn Leu His His His Asp Glu Tyr Val  
15 20 25  
Asp Asn His Gly Gln Leu Val Glu Arg Phe Thr Thr Arg Lys  
30 35 40  
His Tyr Glu Arg Asn Ala Ala Thr Arg Pro His Leu Ser Gly  
45 50 55  
Asn Glu Arg Leu Val Glu Thr Ile Val Leu Glu Glu Asp Pro  
60 65 70  
Tyr Gly His Glu Asp Ile Tyr Glu Glu Asp Val Val Ile Asn  
75 80  
Arg Val Pro Gly Ala Ser Ser Ser Ala Ala Ala Ala Ser Ser  
85 90 95  
Ala Ser Ala Gly Ser Gly Gln Thr Ile Ile Val Glu Arg Gln  
100 105 110  
Ala Ser His Gly Ala Gly Gly Ala  
115 120

&lt;210&gt; 24

&lt;211&gt; 16

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 24

Ala Gly Ala Ala Ala Gly Ala Ala Ala Gly Ser Ser Ala Arg  
5 10  
Gly Gly  
15

&lt;210&gt; 25

<211> 45  
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<213> *Antheraea yamamai*

<220>

<400> 25  
Ser Gly Phe Tyr Glu Thr His Asp Ser Tyr Ser Ser Tyr Gly  
5 10  
Ser Gly Ser Ser Ser Ala Ala Ala Ala Ser Ser Gly Ala Gly  
15 20 25  
Gly Ala Gly Gly Gly Tyr Gly Trp Gly Asp Gly Gly Tyr Gly  
30 35 40  
Ser Asp Ser  
45

<210> 26  
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<212> PRT  
<213> *Anthraea yamamai*

<220>

<400> 26  
Gly Ser Gly Ala Gly Gly Arg Gly Asp Gly Gly Tyr Gly Ser  
5 10  
Gly Ser Ser  
15

<210> 27  
<211> 27  
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<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 27

Arg Arg Ala Gly His Asp His Ala Ala Gly Ser Ser Gly Gly  
5 10  
Gly Tyr Ser Trp Asp Tyr Ser Ser Tyr Gly Ser Glu Ser  
15 20 25

&lt;210&gt; 28

&lt;211&gt; 23

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 28

Gly Ser Gly Ala Gly Gly Val Gly Gly Gly Tyr Gly Gly Gly  
5 10  
Asp Gly Gly Tyr Gly Ser Gly Ser Ser  
15 20

&lt;210&gt; 29

&lt;211&gt; 11

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 29

Arg Arg Ala Gly His Asp Arg Ala Ala Gly Ser  
5 10

&lt;210&gt; 30

&lt;211&gt; 21

<212> PRT

<213> *Antheraea yamamai*

<220>

<400> 30

Ser Gly Ala Gly Gly Ser Gly Gly Gly Tyr Gly Trp Gly Asp

5

10

Gly Gly Tyr Gly Ser Asp Ser

15

20

<210> 31

<211> 8

<212> PRT

<213> *Antheraea yamamai*

<220>

<400> 31

Gly Ser Gly Ala Gly Arg Ala Gly

5

<210> 32

<211> 14

<212> PRT

<213> *Antheraea yamamai*

<220>

<400> 32

Gly Asp Tyr Gly Trp Gly Asp Gly Gly Tyr Gly Ser Asp Ser

5

10

<210> 33

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<220>

<400> 33  
Arg Gln Ala Gly His Glu Arg Ala Ala Gly Ser  
5 10

<210> 34  
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<220>

<400> 34  
Ser Gly Ala Gly Gly Ser Gly Arg Gly Tyr Gly Trp Gly Asp  
5 10  
Gly Gly Tyr Gly Ser Asp Ser  
15 20

<210> 35  
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<220>



&lt;400&gt; 35

Gly Ser Gly Ala Gly Gly Ala Gly Gly Asp Tyr Gly Trp Gly

5

10

Asp Gly Gly Tyr Gly Ser Asp

15

20

&lt;210&gt; 36

&lt;211&gt; 22

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 36

Gly Ser Gly Ala Gly Gly Ala Gly Gly Asp Tyr Gly Trp Gly

5

10

Asp Gly Gly Tyr Gly Ser Asp Ser

15

20

&lt;210&gt; 37

&lt;211&gt; 21

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 37

Ser Gly Ala Gly Gly Ala Gly Gly Gly Tyr Gly Trp Gly Asp

5

10

Gly Gly Tyr Gly Ser Asp Ser

15

20

&lt;210&gt; 38

&lt;211&gt; 16

<212> PRT

<213> *Antheraea yamamai*

<220>

<400> 38

Ser Gly Ala Gly Gly Ala Gly Gly Tyr Gly Gly Tyr Gly Ser

5

10

Asp Ser

15

<210> 39

<211> 21

<212> PRT

<213> *Antheraea yamamai*

<220>

<400> 39

Ser Gly Ala Gly Gly Ser Gly Gly Gly Tyr Gly Trp Gly Asp

5

10

Gly Gly Tyr Gly Ser Gly Ser

15

20

<210> 40

<211> 22

<212> PRT

<213> *Antheraea yamamai*

<220>

&lt;400&gt; 40

Gly Ser Gly Ala Gly Gly Val Gly Gly Gly Tyr Gly Trp Gly

5 10

Asp Gly Gly Tyr Gly Ser Asp Ser

15 20

&lt;210&gt; 41

&lt;211&gt; 16

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 41

Ser Gly Ala Gly Gly Arg Gly Asp Gly Gly Tyr Gly Ser Gly

5 10

Ser Ser

15

&lt;210&gt; 42

&lt;211&gt; 22

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 42

Gly Ser Gly Ala Gly Gly Ala Gly Gly Gly Tyr Gly Trp Gly

5 10

Asp Gly Gly Tyr Gly Ser Asp Ser

15 20

&lt;210&gt; 43

&lt;211&gt; 11

<212> PRT

<213> *Antheraea yamamai*

<220>

<400> 43

Arg Arg Ala Gly His Asp Arg Ala Ala Gly Cys

5

10

<210> 44

<211> 21

<212> PRT

<213> *Antheraea yamamai*

<220>

<400> 44

Ser Gly Ala Gly Gly Thr Gly Gly Gly Tyr Gly Trp Gly Asp

5

10

Gly Gly Tyr Gly Ser Asp Ser

15

20

<210> 45

<211> 21

<212> PRT

<213> *Antheraea yamamai*

<220>

<400> 45

Ser Gly Ala Gly Gly Ser Gly Gly Gly Tyr Gly Trp Gly Asp

5

10

Gly Gly Tyr Gly Ser Asn Ser

15

20

<210> 46  
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<212> PRT  
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<220>

<400> 46  
Ser Gly Ala Gly Arg Ser Gly Gly Gly Tyr Gly Trp Gly Asp  
5 10  
Gly Gly Tyr Ser Ser Asp Ser  
15 20

<210> 47  
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<212> 16  
<213> *Antheraea yamamai*

<220>

<400> 47  
Ser Gly Ala Gly Gly Ser Gly Gly Tyr Gly Gly Tyr Gly Ser  
5 10  
Asp Ser  
15

<210> 48  
<211> 25  
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<213> *Antheraea yamamai*

<220>

&lt;400&gt; 48

Gly Ser Gly Ala Gly Gly Val Gly Gly Gly Tyr Gly Trp Gly

5

10

Asp Gly Gly Tyr Gly Gly Tyr Gly Ser Asp Ser

15

20

25

&lt;210&gt; 49

&lt;211&gt; 23

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 49

Gly Ser Gly Ala Gly Gly Val Gly Gly Gly Tyr Gly Arg Gly

5

10

Asp Ser Gly Tyr Gly Ser Gly Ser Ser

15

20

&lt;210&gt; 50

&lt;211&gt; 8

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 50

Gly His Gly Arg Ser Ser Gly Ser

5

&lt;210&gt; 51

&lt;211&gt; 21

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 51

Ser Gly Ala Gyl Gly Ser Gly Gly Gly Tyr Gly Trp Asp Tyr

5

10

Gly Ser Tyr Gly Ser Asp Ser

15

20

&lt;210&gt; 52

&lt;211&gt; 22

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 52

Ser Ser Gly Ala Gly Gly Ser Gly Gly Gly Tyr Gly Trp Asp

5

10

Tyr Gly Gly Tyr Gly Ser Asp Ser

15

20

&lt;210&gt; 53

&lt;211&gt; 22

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 53

Gly Ser Gly Ala Gly Gly Ser Gly Gly Gly Tyr Gly Trp Gly

5

10

Asp Gly Gly Tyr Gly Ser Asp Ser

15

20

<210> 54  
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<212> PRT  
<213> *Antheraea yamamai*

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<400> 54  
Ser Arg Arg Ala Gly His Asp Arg Ala Try Gly Ala Gly Ser  
5 10

<210> 55  
<211> 28  
<212> PRT  
<213> *Antheraea yamamai*

<220>

<400> 55  
Gly Ala Gly Ala Ser Arg Pro Val Gly Ile Tyr Gly Thr Asp  
5 10  
Asp Gly Phe Val Leu Asp Gly Gly Tyr Asp Ser Glu Gly Ser  
15 20 25

<210> 56  
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<212> PRT  
<213> *Antheraea yamamai*

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<400> 56  
Ser Ser Ser Gly Arg Ser Thr Glu Gly His Pro Leu Leu Ser  
5 10  
Ile Cys Cys Arg Pro Cys Ser His Arg His Ser Tyr Glu Ala  
15 20 25  
Ser Arg Ile Ser Val His  
30

<210> 57  
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<220>

<400> 57  
Gly Ala Gly Ala Gly Ser Gly Ala Gly Ala Gly Ser Gly Ala  
5 10  
Gly Ala Gly Tyr Gly Ala Gly Tyr  
15 20

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<220>

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Gly Ala Gly Ala Gly Ser Gly Ala Ala Ser Gly Ala Gly Ala  
5 10  
Gly Ala Gly Ala Gly Ala Gly Thr  
15 20

<210> 59  
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<213> *Bombyx mori*

<220>

<400> 59

Ala Ala Ser Ser Val Ser Ser Ala Ser Ser Arg Ser Tyr Asp

5

10

Tyr Ser Arg Arg Asn Val Arg Lys Asn

15

20

<210> 60

<211> 29

<212> PRT

<213> *Bombyx mori*

<220>

<400> 60

Gly Ser Ser Gly Phe Gly Pro Tyr Val Ala His Gly Gly Tyr

5

10

Ser Gly Tyr Glu Tyr Ala Trp Ser Ser Glu Ser Asp Phe Gly

15

20

25

Thr

<210> 61

<211> 10

<212> PRT

<213> *Antheraea yamamai*

<220>

&lt;400&gt; 61

Ala Ala Ala Ala Ala Ala Ala Ala Ala

5

10

&lt;210&gt; 62

&lt;211&gt; 12

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 62

Tyr Gly Trp Gly Asp Gly Gly Tyr Gly Ser Asp Ser

5

10

&lt;210&gt; 63

&lt;211&gt; 16

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 63

Ser Gly Ala Gly Gly Ser Gly Gly Tyr Gly Gly Tyr Gly Ser

5

10

Asp Ser

15

&lt;210&gt; 64

&lt;211&gt; 17

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 64

Gly Ser Gly Ala Gly Gly Arg Gly Asp Gly Gly Tyr Gly Ser

5

10

Gly Ser Ser

15

&lt;210&gt; 65

&lt;211&gt; 11

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 65

Arg Arg Ala Gly His Asp Arg Ala Ala Gly Ser

5

10

&lt;210&gt; 66

&lt;211&gt; 6

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 66

Asp Glu Tyr Val Asp Asn

5

&lt;210&gt; 67

&lt;211&gt; 20

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 67

Val Glu Thr Ile Val Leu Glu Glu Asp Pro Tyr Gly His Glu

5

10

Asp Ile Tyr Glu Glu Asp

15

20

&lt;210&gt; 68

&lt;211&gt; 13

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 68

Asp Asp Gly Phe Val Leu Asp Gly Gly Tyr Asp Ser Glu

5

10

&lt;210&gt; 69

&lt;211&gt; 6

&lt;212&gt; PRT

<213> *Bombyx mori*

&lt;220&gt;

&lt;400&gt; 69

Gly Ala Gly Ala Gly Ser

5

&lt;210&gt; 70

&lt;211&gt; 6

&lt;212&gt; PRT

<213> *Bombyx mori*

<220>

<400> 70

Asp Ser Asp Gly Asp Glu

5

<210> 71

<211> 6

<212> PRT

<213> *Bombyx mori*

<220>

<400> 71

Asp Glu Asp Glu Asp Glu

5

<210> 72

<211> 6

<212> PRT

<213> *Bombyx mori*

<220>

<400> 72

Glu Asp Glu Asp Glu Asp

5

<210> 73

<211> 6

<212> PRT

<213> *Bombyx mori*

&lt;220&gt;

&lt;400&gt; 73

Ser Ser Glu Ser Ser Glu

5

&lt;210&gt; 74

&lt;211&gt; 6

&lt;212&gt; PRT

<213> *Bombyx mori*

&lt;220&gt;

&lt;400&gt; 74

Tyr Gly Gly Tyr Glu Tyr

5

&lt;210&gt; 75

&lt;211&gt; 7

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

&lt;400&gt; 75

Asp Gly Gly Tyr Gly Gly Asp

5

&lt;210&gt; 76

&lt;211&gt; 6

&lt;212&gt; PRT

<213> *Antheraea yamamai*

&lt;220&gt;

<400> 76  
Asp Glu Tyr Asp Glu Tyr  
5

<210> 77  
<211> 8  
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<400> 77  
Tyr Glu Glu Asp Tyr Glu Glu Asp  
5

<210> 78  
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<400> 78  
Glu Glu Glu Glu

<210> 79  
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<220> Cell growth promoting activity



<400> 79

Glu Glu Glu Glu Glu Glu

5

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<213> Artificial sequence

<220> Cell growth promoting activity

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Glu Tyr Glu Tyr Glu Tyr

5

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Glu Glu Tyr Glu Glu Tyr

5

<210> 82

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<213> Artificial sequence

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<400> 82

Tyr Tyr Tyr Tyr Tyr Tyr

5

<210> 83

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<220> Cell growth promoting activity

<400> 83

Glu Gly Ser Glu Gly Ser

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<210> 84

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Tyr Tyr Tyr Tyr